

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to
Continue the Development of Rates
and Infrastructure for Vehicle
Electrification.

Rulemaking 18-12-006
(Filed December 13, 2018)

**REPLY COMMENTS OF THE VEHICLE-GRID INTEGRATION
COUNCIL ON THE ENERGY DIVISION STAFF PROPOSAL TO
ESTABLISH TRANSPORTATION ELECTRIFICATION FUNDING
CYCLES AND STATEWIDE BEHIND-THE-METER PROGRAM**

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May 16, 2022

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Vehicle-Grid Integration Council (“VGIC”) ¹ hereby submits these reply comments on the *Energy Division Staff Proposal to Establish Transportation Electrification Funding Cycles and Statewide Behind-the-Meter Program* (“Staff Proposal”), issued on February 25, 2022.

I. INTRODUCTION.

VGIC is a 501(c)6 membership-based advocacy group committed to advancing the role of electric vehicles (“EV”) and vehicle-grid integration (“VGI”) through policy development, education, outreach, and research. VGIC supports the transition to a decarbonized transportation

¹ VGIC member companies and supporters include American Honda Motor Co., Inc., dcbel, Enel X North America, Inc., ENGIE NA, Fermata Energy, FlexCharging, Flo/AddEnergie, Ford Motor Company, FreeWire Technologies, General Motors Company, Nissan Group of North America, Nuvve Holding Corporation, Sacramento Municipal Utility District, Stellantis N.V., Sunrun, The Mobility House, Toyota Motor North America, Inc., Veloce Energy, Inc., Wallbox USA Inc., and WeaveGrid. The views expressed in these Comments are those of VGIC, and do not necessarily reflect the views of all individual VGIC member companies or supporters.
(<https://www.vgicouncil.org/>).

and electric sector by ensuring the value from EV deployments and flexible EV charging and discharging is recognized and compensated in support of achieving a more reliable, affordable, and efficient electric grid.

VGIC is encouraged by the depth of opening comments from parties in this proceeding and looks forward to collaborating further on this initiative. In our reply comments below, we aim to respond to several key considerations related to VGI, including:

- VGIC agrees with the overwhelming majority of parties highlighting the need to integrate VGI into the Staff Proposal.
- The Commission should seek to gather additional information on enabling vehicle telematics and EVSE submetering capabilities via a timely CPUC-hosted workshop, workshop report that is entered into the record, and subsequent party comments on the workshop report.
- VGIC recommends that potentially substantial ratepayer benefits from Automated Load Management be promoted through (1) a fixed incentive for EVSE installed on existing services, thereby avoiding the cost of new meters/service drops and (2) a prescriptive \$/kW ALM rebate for reducing utility-side upgrade costs through load management.

II. OPENING COMMENTS FROM OVERWHELMING MAJORITY OF PARTIES DEMONSTRATES THE CRITICAL NEED TO INCORPORATE VGI THROUGHOUT THE STAFF PROPOSAL.

VGIC reiterates that it is critical to implement VGI strategies, including those identified in Decision (“D.”) 20-12-029 (“VGI Strategies Decision”), within the Staff Proposal and alongside broader TE infrastructure investments, rather than considering VGI only *after* these investments have been made. Notably, a diverse set of parties – in fact, an overwhelming majority of them – also support the incorporation of VGI concepts into the Staff Proposal. Parties other than VGIC recommending the Staff Proposal incorporate or address customer-focused VGI strategies, including managed charging, vehicle telematics and EVSE submetering, ALM, dynamic rates and rate plans, demand response programs, bidirectional charging or “V2X”, workplace charging to

absorb excess solar production, co-sited EVSE and DERs, and load management plans include: Advanced Energy Economy (“AEE”), Alliance for Transportation Electrification, Alliance for Automotive Innovation (“AAI”), California Efficiency and Demand Management Council, ChargePoint, Center for Sustainable Energy, EDF Renewables, Environmental Defense Fund, EVgo, Green Power Institute, Natural Resources Defense Council, Coalition for California Utility Employees, Ecology Action, Siemens, Shell Recharge Solutions, Enel X North America, Nuvve, CalAdvocates, Pacific Gas & Electric, Small Business Utility Advocates (“SBUA”), Southern California Edison, San Diego Gas & Electric, Tesla, and WeaveGrid.² The sheer quantity and diverse interests of parties discussing VGI in their Opening Comments – while the Staff Proposal contained nearly no discussion of VGI concepts – makes it abundantly clear that the Staff Proposal must do more to promote the VGI strategies listed above. While VGIC reiterates its disappointment in the lack of discussion surrounding VGI, it would be insufficient to merely reference VGI. Not unlike equity considerations, VGI cannot be a “check the box” activity. As illustrated by the diversity of topics and perspectives raised by parties commenting on VGI in opening comments, VGI concepts are nuanced, interrelated, and key to California’s decarbonization future. The Staff Proposal must holistically incorporate VGI concepts if it aims to succeed in taking meaningful steps forward to accelerate energization timelines, reduce emissions (both transportation and electric sector), support grid reliability, support customer and community resiliency, reduce ownership costs for EV customers and fleets, and reduce TE costs borne by ratepayers. VGIC reiterates its recommendation that VGI play a more integral role in the proposed TE funding cycles

² Opening Comments of: AEE at 6-8, 11; ATE at 13; AAI at 7-9, 11-14; CEDMC at 3; ChargePoint at 13, 15; CSE at 12; EDF Renewables at 3-4, 6-7; EDF at 6-7; EVgo at 4; GPI at 2, 19-20; NRDC et al. at 6; Nuvve at 4; CalAdvocates at 23; PG&E at 12-13; SBUA at 6, 16; SCE at 11, 22; SDG&E at 7; Tesla at 8-9; WeaveGrid at 5, 7-9.

and statewide BTM program. Specifically, the design of the statewide BTM rebate program should do more to promote VGI through the mechanisms detailed in VGIC's opening comments as well as the additional recommendations below.

III. THE CPUC SHOULD GATHER ADDITIONAL INFORMATION ON VEHICLE TELEMATICS AND EVSE SUBMETERING BY HOSTING A WORKSHOP, ENTERING A WORKSHOP REPORT INTO THE RECORD, AND INVITING COMMENTS ON THE WORKSHOP REPORT.

In opening comments, AEE,³ AAI,⁴ and WeaveGrid⁵ details the value of vehicle telematics and EVSE submetering as important tools to expand access to EV-specific rates, enable the installation of new EVSE on existing utility service, promote co-sited DERs, facilitate EV participation in demand response, promote customer resiliency in advance of public safety power shutoffs, and promote new types of VGI programs. In addition, vehicle telematics and EVSE submetering promotes installing EVSE on exiting utility service, which would lift a critical barrier for V2X technologies that can support customer bill management use cases, including demand charge management.⁶

While a Final PEV Submetering Protocol for residential customers is currently pending in this proceeding, it is important to enable the use of vehicle telematics in addition to EVSE submetering. In opening comments, VGIC provided a list of existing and proposed programs

³ Opening Comments of AEE at 6 and 8.

⁴ Opening Comments of AAI at 7 and 9-10.

⁵ Opening Comments of WeaveGrid at 9.

⁶ Existing and proposed TE make-ready offerings including PG&E EV Charge Network, PG&E EV Fast Charge, PG&E EV Charge 2, SCE Charge Ready, and SDG&E Power Your Drive requires EVSE be installed on a separate service drop. In addition, each IOU offers EV-specific TOU rates to residential and commercial customers that promote installation on a separate service drop. The new EV Infrastructure Rules further promote separating EVSE service from existing service drops. Collectively, these policies and programs place V2X equipment that can support behind-the-meter use cases at a disadvantage relative to separately-metered EVSE.

across the nation that use vehicle telematics and/or EVSE submetering to implement VGI strategies and programs.⁷ Notably, many of these example programs publish a list of eligible equipment, and utilities offering both vehicle telematics and EVSE submetering pathways, as expected, have the largest list of eligible equipment and, in turn, offer the greatest amount of customer choice and access.⁸ If California wants to retain its role at the leading edge of EV technology development, VGIC believes it is critical that the Commission emulate these efforts which are already advancing elsewhere, and which can expand access to VGI strategies.⁹ Importantly, to ensure maximum participation and customer choice, VGI programs and rates must allow for participation from customers using *both* networked EVSE or vehicle telematics. Together, these two technologies have the most reach and make for robust customer programs, resulting in greater customer and grid benefits. Additionally, vehicle telematics is an option to perform managed charging and other VGI strategies for EV drivers without requiring access to networked Level 2 chargers.

Based on our understanding, there is currently no active initiative looking to discuss the barriers to promoting these solutions in California. As such, VGIC strongly recommends the Commission direct Energy Division staff to host a full-day workshop within three months to

⁷ Opening Comments of VGIC at 13-14, footnote 21.

⁸ See, for example, National Grid Massachusetts' Off-Peak Charging Rebate Program, which uses both telematics and networked EVSE to implement an off-peak charging rebate (https://www.nationalgridus.com/media/pdfs/billing-payments/tariffs/mae/ev_adjmt_prov.pdf); Baltimore Gas & Electric's companion evPulse (<https://landing.bge.ev-pulse.com/>) and EVsmart (<https://www.bge.com/SmartEnergy/InnovationTechnology/Pages/Residential-Charger-Rebate.aspx>) programs, which offer annual incentives for smart charging via telematics and EVSE submetering, respectively; Xcel Minnesota's EV Accelerate at Home Program that uses EVSE submetering to facilitate enrollment in EV-specific TOU rates (<https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId=%7b20E1FE74-0000-C715-9765-D3D7DC10DE0A%7d&documentTitle=202010-167089-01>) and Optimize Your Charge Program that will utilize vehicle telematics to promote VGI (<https://www.weavegrid.com/post/weavegrid-expands-work-with-xcel-energy>).

⁹ See, for example, <https://opiniondynamics.com/wp-content/uploads/2022/03/PGE-EV-ADR-Study-Report-3-16.pdf> and <https://sepapower.org/resource/the-state-of-managed-charging-in-2021/> which find that telematics and networked EVSEs can be complementary and are both effective strategies to manage charging.

gather information on both vehicle telematics and EVSE submetering and assess how using both approaches will support expansive customer choice and access. The workshop agenda should include, at a minimum:

- Overview of available technologies and capabilities
- Example pilot and program implementations
- Opportunities for vehicle telematics and EVSE submetering in California
- Barriers to advancing vehicle telematics and EVSE submetering in California
- Policy recommendations to facilitate vehicle telematics and EVSE submetering in California

To ensure the workshop can meaningfully facilitate progress, VGIC recommends that a workshop report be entered into the record of this proceeding and that the Commission invite comments on the workshop report. VGIC believes this robust stakeholder process is necessary to bring California up to speed with the rest of the nation on the matter of vehicle telematics and EVSE submetering. VGIC offers itself as a resource to support the Energy Division as needed to advance this effort, including by facilitating workshop planning and/or stakeholder outreach in preparation for the workshop.

IV. AUTOMATED LOAD MANAGEMENT (“ALM”) SHOULD BE PROMOTED VIA (1) A FIXED INCENTIVE FOR AVOIDING A SEPARATE SERVICE DROP AND (2) A PRESCRIPTIVE “DOLLAR PER KW-REDUCED VIA ALM” REBATE PROGRAM BASED ON AVERAGE UTILITY SIDE UPGRADE COSTS.

Several parties including AEE, EDF Renewables, and SBUA noted in opening comments that ALM can be an important tool to accelerate energization timelines and reduce the need for

distribution system upgrades.¹⁰ VGIC agrees and reiterates its support for using ALM solutions as required by OP 5 of D.20-12-029, which directs the three major IOUs to take specific actions related to ALM, “in all of its future applications for TE programs, or rule or tariff to support TE infrastructure installation.”¹¹ ALM software solutions can share available electrical capacity among charging stations to avoid the installation of additional electrical capacity. Similarly, utilizing on-site DER, such as stationary energy storage systems, can also avoid the installation of additional electrical capacity by keeping maximum site charging load well under the cumulative nameplate capacity of all EVSE at a given site. Avoiding installing additional electrical capacity where appropriate and desired by customers can, in some cases, significantly accelerate the energization process, reduce customer costs, and reduce ratepayer costs.

ALM solutions have been proven to accelerate energization timelines and reduce infrastructure upgrade costs in PG&E’s EV Charge Network (“EVCN”) program. According to PG&E, savings ranged from \$30,000 to \$200,000 per project in EVCN.¹² As noted in PG&E’s EV Charge 2 application, PG&E intends to “build off the successful use of ALM in EVCN, whereby costs were reduced and physical constraints were overcome at customer sites that were deemed a good fit to use this technology.”¹³ In addition to its success in EVCN, ALM has also seen commercial success through deployments by providers like AddEnergie, Enel X, EVBox,

¹⁰ See Opening Comments of: AEE at 7, EDF Renewables at 4, and SBUA at 16.

¹¹ R.18-12-006. *Decision Concerning Implementation of Senate Bill 676 and Vehicle-Grid Integration Strategies*. D.20-12-029. (December 17, 2021). OP 5.

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M355/K794/355794454.PDF>

¹² PG&E ALM/EV EMS Workshop Presentation. January 29, 2021.

¹³ A.21-11-010. *PG&E’s Electric Vehicle Charge 2 Prepared Testimony*. (October 26, 2021). At 5-2.

https://pgeregulation.blob.core.windows.net/electricvehiclecharge2//ElectricVehicleCharge2/Testimony/PGE/2021/ElectricVehicleCharge2_Test_PGE_20211026_675449.pdf?sv=2014-02-14&sr=b&sig=Plt5dQqlk4Z9PFIUmn3dbtPhPRI32FsWfYOuncQ7S7A%3D&se=2022-04-22T22%3A05%3A05Z&sp=rl

FreeWire Technologies, the Mobility House, EDF Renewables / Powerflex, and Veloce Energy.¹⁴ Moreover, D.20-12-029 deemed ALM a near-term policy action in recognition that ALM is an important tool to help meet California’s TE goals.¹⁵ With this in mind, VGIC believes ALM is a no-regrets strategy for sites with multiple EVSE and long dwell times, such as the MUD and MUD-serving sites contemplated in the Staff Proposal, as well as workplace charging sites.¹⁶

Although PG&E’s EV Charge 2 application incorporates ALM strategies, the Staff Proposal offers no consideration for how ALM solutions would be supported in the TE funding cycles and statewide BTM rebate program. VGIC is concerned over the lack of incentive for customers to install EVSE on existing service and/or elect ALM solutions to reduce infrastructure upgrades required. VGIC has on several occasions flagged the lack of incentive in this proceeding as well as TE applications.¹⁷ To remedy this, VGIC strongly recommends the Commission incorporate ALM into the Staff Proposal by employing two tools:

¹⁴ AddEnergie “PowerSharing” <https://addenergie.com/en/core/>
Enel X “JuiceBox” <https://evcharging.enelx.com/commercial-charging>
EVBox “Workplace Charging Solutions” <https://evbox.com/us-en/charging-solutions/workplace>
FreeWire Technologies “BOOSTCHARGER” and “AMP” <https://freewiretech.com/products/dc-boost-charger/>
The Mobility House “ChargePilot” https://www.mobilityhouse.com/usa_en/charging-and-energy-management
Powerflex “Adaptive Load Management” <https://www.powerflex.com/products/ev-charging/>
Veloce Energy “VPORT” <https://www.veloceenergy.com/products>

¹⁵ R.18-12-006. *Decision Concerning Implementation of Senate Bill 676 and Vehicle-Grid Integration Strategies*. D.20-12-029. (December 17, 2021). Page 25.

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M355/K794/355794454.PDF>

¹⁶ Opening Comments of EDF Renewables at 4.

¹⁷ See: January 15, 2021 Pre-Workshop Comments in Advance of January 29, 2021 EV EMS Workshop; VGIC Presentation during January 29, 2021 EV EMS Workshop; Comments of VGIC on Assigned Commissioners Ruling on AB 841 Implementation on February 5, 2021 <https://www.vgicouncil.org/s/Comments-of-VGIC-on-ACR-Regarding-Implementation-of-AB-841.PDF>; Reply Comments of VGIC on Assigned Commissioners Ruling on AB 841 Implementation on February 19, 2021 <https://www.vgicouncil.org/s/VGIC-Reply-Comments-on-ACR-for-AB-841-R18-12-006.pdf>; Multi-Stakeholder Letter on ALM Circulated to Commissioners and Energy Division staff on June 16, 2021 <https://www.vgicouncil.org/s/Enabling-ALM-Stakeholder-Letter-to-CPUC.pdf>; VGIC Comments on EV Infrastructure Rules Resolution on August 25, 2021 <https://www.vgicouncil.org/s/VGICs-Comments-on-Draft-Resolution-E-5167-R18-12-006.pdf>; Response of VGIC to the Application of PG&E for Approval of its EV Charge 2 Program on November 29, 2021 <https://static1.squarespace.com/static/5dcde7af8ed96b403d8aeb70/t/61a669938e3e2852ffa18191/1638295955661/Response+of+VGIC+to+PG%26E+EVC+2+A21-10-010.pdf>; Opening Testimony of Ed Burgess on Behalf of VGIC

1. Fixed upfront incentive for avoiding a separate meter and service drop.

Traditional TE programs as well as the EV Infrastructure Rules have almost exclusively focused on furnishing new services for EV charging. This overlooks the potential to pursue electrification at significantly lower cost on existing services. To remedy this, customers should be offered a fixed upfront incentive for electing an ALM solution that allows them to avoid the installation and construction of a new meter/service drop. Customers that elect this non-wires alternative could share the resulting cost savings with ratepayers, which VGIC believes would constitute a no regrets, win-win solution for both site hosts and ratepayers. Moreover, this can help accelerate energization timelines by avoiding the additional construction time required with installing a separate meter/service drop, especially in areas with space limitations. Furthermore, it serves to advance VGI technologies and services that can yield larger grid benefits, by unlocking use cases only available to co-mingled loads (e.g., backup power via V2X, demand reduction).

2. Prescriptive ALM rebate program for reducing demand below cumulative EVSE nameplate rating.

A prescriptive ALM rebate program would be modeled after prescriptive rebate programs implemented in energy efficiency portfolios across the country. Under a prescriptive ALM rebate program, customers would receive a fixed rebate amount per kW reduced below cumulative nameplate EVSE rating. Consistent with the goals of the Staff Proposal, this would reduce administrative burden by avoiding a “customized” approach of assessing specific distribution upgrade costs associated with each individual site. Instead, under the prescriptive ALM rebate program, customers could elect any number of pre-approved ALM solutions, including both ALM

in A.21-10-010 on March 2, 2022

<https://static1.squarespace.com/static/5dcde7af8ed96b403d8aeb70/t/622140a250a0f322f0e6fee9/1646346403215/VGIC%27s+Opening+Testimony+on+EV+Charge+2.pdf>

software and co-sited/integrated DERs, and receive a fixed \$/kW payment based on the average distribution upgrade costs associated with TE. The IOUs' 2021 Annual EV Report indicates per-kW utility side costs for TE installed outside of TE programs equal \$177 and \$161 for PG&E and SCE, respectively.¹⁸ VGIC recommends that these numbers serve as the starting point for a \$/kW-reduced incentive to customers that elect ALM solutions outside of TE programs, including both during Funding Cycle 0 and Funding Cycle 1. For example, based on these values, a hypothetical portfolio of ALM solutions that reduced 10,000 kW of required utility-side upgrades to only 9,000 kW of upgrades in SCE's territory would, on average, yield \$161,000 in ratepayer savings. The customer and/or service provider implementing these solutions should be eligible for a prescribed share of these savings, while the remainder would benefit all utility ratepayers.

For both of these approaches, incentive levels can be tracked and revised over time to ensure they balance both ratepayer benefits and programmatic costs. Additionally, to clarify, neither of these approaches would require that all customers receiving funding through the TE Funding Cycle must install ALM. VGIC reiterates its recommendation made in opening comments and several times before in this proceeding that ALM always remain an *optional* strategy that customers can choose, rather than a *requirement* that customers are pushed into. Ultimately, ALM strategies must ensure a positive customer experience and avoid slowing TE, and VGIC believes providing fixed upfront incentives for avoiding a meter/service drop installation paired with a prescriptive rebate program approach would appropriately balance TE and ratepayer interests.

¹⁸ R.18-12-006. *Compliance Filing of Southern California Edison Company, San Diego Gas & Electric Company, and Pacific Gas and Electric Company Pursuant to Ordering Paragraph 2 of Decision 16-06-011*. (April 1, 2022). Attachments 1, 2, and 3 at "Non-Program Costs" sheet; "Total Utility side costs" divided by "Amount of new capacity resulting from project (kW)". SDG&E did not track amount of new capacity resulting from project. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M464/K783/464783120.PDF>

V. **CONCLUSION.**

VGIC appreciates the opportunity to submit these reply comments on the Staff Proposal. We look forward to further collaboration with the Commission and stakeholders on this initiative.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Edward Burgess". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

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May 16, 2022